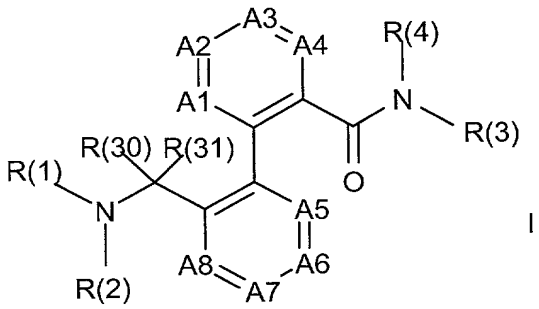
Patent claims

1. A compound of the formula I,



I

in which:

A1, A2, A3, A4, A5, A6, A7 and A8

independently of one another are chosen from nitrogen, CH and CR(5), at least one of these groups being nitrogen and at least 4 of these groups being CH;

R(1) is C(O)OR(9), SO_2R(10), COR(11), C(O)NR(12)R(13) or C(S)NR(12)R(13);

wherein R(9), R(10), R(11) and R(12)

independently of one another are C_xH_{2x}-R(14);

where x is 0, 1, 2, 3 or 4, and

x cannot be 0 if R(14) is OR(15) or SO_2Me;

R(14) is alkyl having 1, 2, 3, 4, 5 or 6 atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms, CF_3, C_2F_5, C_3F_7, CH_2F, CHF_2, OR(15), SO_2Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3 substituted phenyl or unsubstituted phenyl,

wherein the substituted phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino; and

R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF_3;

R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF_3;

R(3) is C_yH_{2y}-R(16);

where y is 0, 1, 2, 3 or 4, and

y cannot be 0 if R(16) is OR(17) or SO_2Me;

R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms, CF_3, C_2F_5, C_3F_7, CH_2F, CHF_2, OR(17), SO_2Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted

furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino; and

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4-pyridyl, or unsubstituted 2-, 3- or 4-pyridyl,

where the substituted phenyl and substituted 2-, 3- or 4-pyridyl are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

or

R(3) is CHR(18)R(19);

where R(18) is hydrogen or C_zH_{2z}-R(16), where R(16) is defined as indicated above;

z is 0, 1, 2 or 3;

R(19) is COOH, $CONH_2$, CONR(20)R(21), COOR(22) or CH_2OH;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C_vH_{2v}-CF_3, substituted C_wH_{2w}- phenyl or unsubstituted C_wH_{2w}- phenyl,

where the phenyl ring of the substituted C_wH_{2w}-phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms; and

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF_3;

or

R(3) and R(4)

together are a chain of 4 or 5 methylene groups, of which one methylene group can be replaced by -O-, -S-, -NH-, -N(methyl)- or -N(benzyl)-;

R(5) is independently of one another chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino, where in the case that more than one of the radicals A1 to A8 have the meaning CR(5), the radicals R(5) are defined independently of one another.

R(30) and R(31)

independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;

or

R(30) and R(31)

together are oxygen or a chain of 2 methylene groups;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

2. The compound as claimed in claim 1, wherein:

A1, A2, A3, A4, A5, A6, A7 and A8

independently of one another are chosen from nitrogen, CH and CR(5), at least one of these groups being nitrogen and at least 4 of these groups being CH;

R(1) is C(O)OR(9), SO_2R(10), COR(11) or C(O)NR(12)R(13)

R(9), R(10), R(11) and R(12)

independently of one another are C_xH_{2x}-R(14);

where x is 0, 1, 2, 3 or 4; and

x cannot be 0 if R(14) is OR(15);

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF_3, OR(15), substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3, substituted phenyl or unsubstituted phenyl,

wherein the substituted phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF_3;

R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF_3;

R(3) is C_yH_{2y}-R(16);

where y is 0, 1, 2, 3 or 4, and

y cannot be 0 if R(16) is OR(17) or SO_2Me;

R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, carbon atoms, CF_3, OR(17), SO_2Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4- pyridyl, or unsubstituted 2-, 3- or 4- pyridyl

where the substituted phenyl or substituted 2-, 3- or 4- pyridyl are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

or

R(3) is CHR(18)R(19);

where R(18) is hydrogen or C_zH_{2z}-R(16), where R(16) is defined as indicated above;

z is 0, 1, 2 or 3;

R(19) is $CONH_2$, CONR(20)R(21), COOR(22) or CH_2OH;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C_vH_{2v}-CF_3, substituted C_wH_{2w}- phenyl, or substituted C_wH_{2w}- phenyl,

where the phenyl ring of the substituted C_wH_{2w}- phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms; and

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF_3;

R(5) is independently of one another chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms,

alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;

or

R(30) and R(31)

are a chain of 2 methylene groups;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

3. The compound as claimed in claim 2, wherein

A1, A2, A3, A4, A5, A6, A7 and A8 independently of one another are chosen from nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio..

4. The compound as claimed in claims 1, wherein:

A1, A2, A3, A4, A5, A6, A7 and A8

independently of one another are chosen from nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH;

R(1) is C(O)OR(9), SO_2R(10), COR(11) or C(O)NR(12)R(13);

R(9), R(10), R(11) and R(12)

independently of one another are C_xH_{2x}-R(14);

where x is 0, 1, 2, 3 or 4,

x cannot be 0 if R(14) is OR(15);

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF_3, OR(15), substituted or

unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms;

where the substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independenly substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3 substituted phenyl or unsubstituted phenyl, wherein the substituted phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(13) is hydrogen

R(2) is hydrogen or alkyl having 1, 2 or 3 carbon atoms;

R(3) is CHR(18)R(19);

R(18) is hydrogen or C_ZH_{2Z}-R(16),

where R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, carbon atoms, CF_3, OR(17), SO_2Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl,

substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

z is 0, 1, 2 or 3;

R(19) is $CONH_2$, CONR(20)R(21), COOR(22) or CH_2OH;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C_vH_{2v}-CF_3, substituted C_wH_{2w}- phenyl, or unsubstituted C_wH_{2w}- phenyl

where the phenyl ring of the substituted C_wH_{2w}- phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;

R(5) is independently of one another chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl,

methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

5. The compound as claimed in claim 1, wherein:

A1, A2, A3, A4, A5, A6, A7 and A8

independently of one another are chosen from nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH;

R(1) is C(O)OR(9), SO_2R(10), COR(11) or C(O)NR(12)R(13);

where R(9), R(10), R(11) and R(12)

independently of one another are C_xH_{2x}-R(14);

x is 0, 1, 2, 3 or 4;

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF_3, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms,

dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(13) is hydrogen;

R(2) is hydrogen or methyl;

R(3) is C_yH2_y-R(16);

where y is 0, 1, 2, 3 or 4; and

y cannot be 0 if R(16) is OR(17);

R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, carbon atoms, CF_3, OR(17), SO_2Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, OCF_3, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4- pyridyl, or unsubstituted 2-, 3- or 4- pyridyl

where the substituted phenyl or substituted 2-, 3- or 4- pyridyl are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2,

3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;

R(5) is independently of one another chosen from F, Cl, Br, I, CF_3, NO_2, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

6. The compound as claimed in claim 5, wherein:

A4 is nitrogen and A1, A2, A3, A5, A6, A7 and A8 independently of one another are chosen from CH and CR(5), where at least 5 of these groups are CH;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

7. The compound as claimed in claim 6, wherein:

R(1) is C(O)OR(9), SO_2R(10), COR(11) or C(O)NR(12)R(13);

where R(9), R(10), R(11) and R(12) independently of one another are C_xH_{2x}-R(14);

where x is 0, 1, 2 or 3;

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF_3, substituted phenyl, unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl

where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, OH, alkyl having 1, 2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(13) is hydrogen;

R(2) is hydrogen;

R(3) is C_yH_{2y}-R(16);

y is 0, 1 or 2;

R(16) is alkyl having 1, 2, 3 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF_3, substituted phenyl, unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl

where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, CF_3, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

R(4) is hydrogen;

R(5) is independently of one another chosen from F, Cl, CF_3, CN, COOMe, $CONH_2$, COMe, NH_2, OH, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

R(30) and R(31)

independently of one another are hydrogen or methyl;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

8. The compound as claimed in claim 7, wherein:

R(1) is C(O)OR(9) or COR(11);

R(9) and R(11)

independently of one another are C_xH_{2x}-R(14);

where x is 0, 1, 2 or 3;

R(14) is cycloalkyl having 5 or 6 carbon atoms substituted phenyl, or unsubstituted phenyl

where the substituted phenyl is substituted by 1 or 2 substituents chosen from F, Cl, Br, I, CF_3, OCF_3, OH, alkyl having 1, 2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(2) is hydrogen;

R(3) is C_yH_{2y}-R(16);

y is 0, 1 or 2;

R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, substituted phenyl, unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl,

where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, CF_3, OCF_3, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

R(4) is hydrogen;

R(5) is independently of one another chosen from F, Cl, alkyl having 1, 2, 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

R(30) and R(31)

are hydrogen;

or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

9. A pharmaceutical preparation comprising an efficacious amount of at least one of the compounds of claim 1 and at least one additional component chosen from pharmaceutically acceptable vehicles, pharmaceutically acceptable additives and other pharmacological active compounds.

10. A method for treating or preventing a K^+ channel-mediated diseases comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

11. A method for treating or preventing cardiac arrhythmias which can be eliminated by action potential prolongation comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

12. A method for treating or preventing reentry arrhythmias comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

13. A method for treating or preventing supraventricular arrhythmias comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

14. A method for treating or preventing atrial fibrillation or atrial flutters comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

15. A method for terminating atrial fibrillation or atrial flutters comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

16. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one IKr channel blocker, and at least one additional ingredient chosen from pharmaceutically acceptable vehicles and pharmaceutically acceptable additives.

17. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one IKs channel blocker, and at least one additional ingredient chosen from pharmaceutically acceptable vehicles and pharmaceutically acceptable additives.

18. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one beta blocker, and at least one additional ingredient chosen from pharmaceutically acceptable vehicles and pharmaceutically acceptable additives.